

O Level Combined Chemistry MCQs

Metals Test 3.0

Q1

When iron(III) oxide reacts with carbon monoxide in the blast furnace, a gas is released.

What happens to the iron ions and what is the gas released?

	The iron(III) ions are _____.	The gas is _____.
A	Reduced	carbon dioxide
B	Reduced	oxygen
C	Oxidised	carbon dioxide
D	Oxidised	oxygen

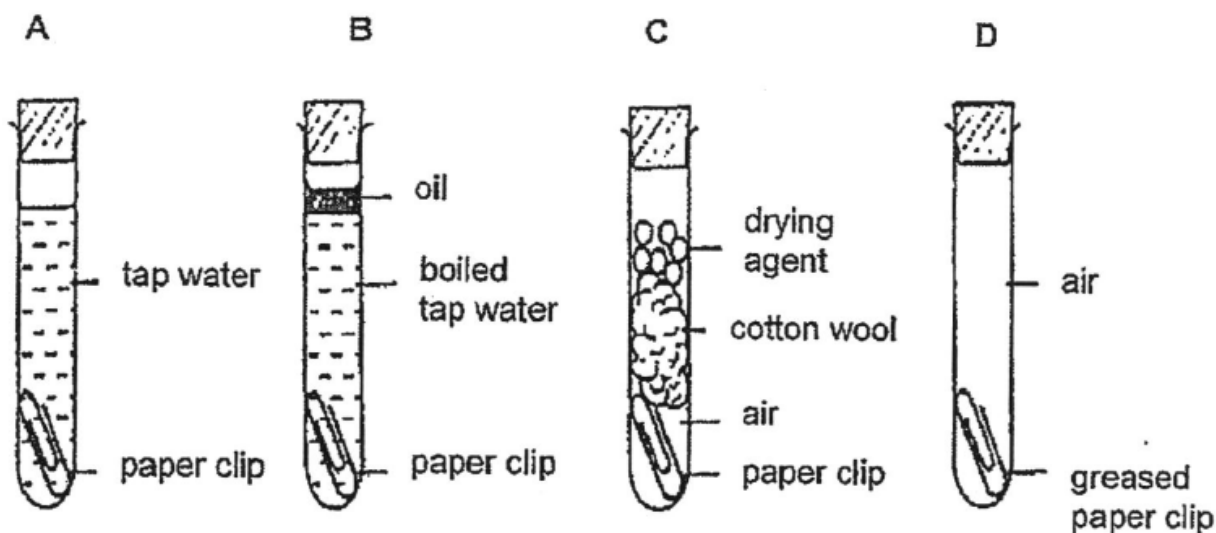
Q2

Which is not a reason for recycling metals such as aluminium?

- A To conserve the ores of aluminium.
- B To prevent aluminium from losing its metallic properties.
- C Recycling aluminium is less costly than extracting aluminium.
- D To reduce the amount of aluminium waste so as to reduce land pollution.

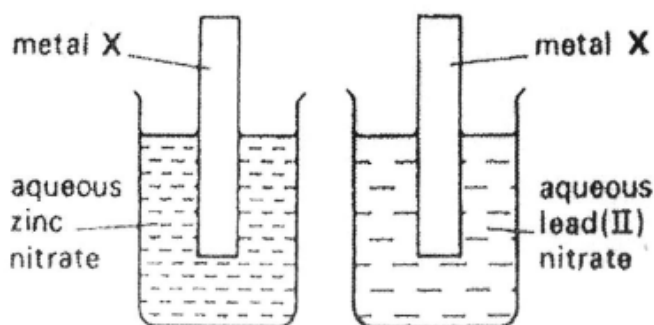
Q3

In which test tube is the paper-clip made of iron most likely to rust?



Q4

Strips of metal **X** were dipped into two solutions. A metallic deposit appeared on both strips. What could metal **X** be?



- A copper
- B iron
- C magnesium
- D gold

Q5

Experiments were carried out to construct a reactivity series for metals **X**, **Y** and **Z**. The table shows the results.

Test	X	Y	Z
Does the metal liberate hydrogen from dilute hydrochloric acid?	Yes	Yes	No
Is the metal oxide reduced by heating with hydrogen gas?	No	Yes	Yes

What is the **ascending** order of reactivity of the metals?

- Least reactive → Most reactive
- A Z Y X
 - B Z X Y
 - C Y X Z
 - D X Y Z

Q6

Scrap iron can be recycled to obtain iron metal. Why does it take less energy to make iron from scrap iron than from iron ore?

- A scrap iron does not need to be reduced to iron
- B scrap iron contains less impurities than iron ore
- C scrap iron is more abundant than iron ore
- D scrap iron melts more easily than iron ore

Q7

Which statement about the extraction of iron in the blast furnace is correct?

- A Slag is the basic impurity present in iron ore.
- B Slag sinks below molten iron at the base of the furnace.
- C The oxide of iron is oxidised by carbon monoxide.
- D The reaction between the oxide of iron and carbon monoxide liberates carbon dioxide.

Q8

Most aluminium cans are made from recycled aluminium.

Why are some aluminium cans still made from aluminium extracted from its ore?

- A Demand is not met by recycling aluminium alone.
- B Extraction of ore produces better quality aluminium.
- C Extraction from the ore uses electricity and is expensive.
- D There is a maximum number of times that aluminium can be recycled.

Q9

The alloy brass is harder than either of its constituent elements, copper and zinc, because the zinc atoms _____.

- A bond to the copper atoms making the alloy harder.
- B form a stable metallic lattice.
- C prevent layers of copper atoms from sliding easily.
- D raise the melting point of the copper.

Q10

A nail left near a sea shore rusts far more quickly than an iron nail left inland. What could the reason be?

- A The increase of exposure to wind increase the rate of rusting.
- B The presence of higher temperature increase the rate of rusting.
- C The presence of sand increase the rate of rusting.
- D The presence of sodium chloride increase the rate of rusting.

Answers

Metals Test 3.0

Q1 A

Q2 B

Q3 A

Q4 C

Q5 A

Q6 A

Q7 D

Q8 A

Q9 C

Q10 D